



PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re the application of:	)	Confirmation: 4618
Stephen A. Loughran et al.)	
)	
Application Number: 10/029,161	)	Art Unit: 2152
)	
Filing Date: December 21, 2001	)	Examiner: Chankong, Dohm
)	
Title: System and Method for Mobile	)	Docket No.: 10019035-1
Network Access	)	(050855-1760)
)	
)	

DECLARATION OF STEPHEN A. LOUGHRAN
PURSUANT TO 37 C.F.R. §1.131

Commissioner of Patents
Alexandria, VA 22313-1450

Sir,

I, Stephen A. Loughran, hereby declare that:

- 1) The invention embodied in the above-identified patent application is directed to systems and methods for mobile network access.
- 2) I am advised that the United States Patent and Trademark Office has rejected one or more claims presently pending in the above-identified patent application based, at least in part, upon U.S. Patent Application Publication No. 2002/0079121 by *Gilman et al* ("the *Gilman* reference"). I am further advised that the effective priority date of the *Gilman* reference is October 19, 2001.
- 3) I have been advised that the invention, however, as embodied in the claims of the present invention was completed by me and my co-inventors Rajeev K.

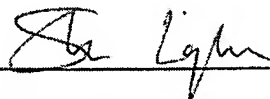
Pandey and Charles M. Patton in this country prior to October 19, 2001. Specifically, I have been advised that the invention was "completed" by virtue of reduction to practice prior to the earliest effective filing date of the *Gilman* reference.

4) As evidence that the present invention was so characterized by reduction to practice, my co-inventors and I submitted a completed Invention Disclosure form prior to October 19, 2001, a copy of which is attached hereto as "Exhibit A." The Invention Disclosure of Exhibit A fully supports the claims of the above-captioned patent application. Dates and sensitive information (e.g., home addresses, Employee #s, etc.) have been redacted in the document in accordance with applicable USPTO rules.

I hereby declare that all statements made herein are of my own knowledge are true and that all statements are made on information and belief and are believed to be true; and further, that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code, and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

10-Jan-2006

Date



Stephen A. Loughran

PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re the application of:	)	Confirmation: 4618
Stephen A. Loughran et al.)	
)	
Application Number: 10/029,161	)	Art Unit: 2152
)	
Filing Date: December 21, 2001	)	Examiner: Chankong, Dohm
)	
Title: System and Method for Mobile	)	Docket No.: 10019035-1
Network Access	)	(050855-1760)
)	
)	

DECLARATION OF RAJEEV K. PANDEY
PURSUANT TO 37 C.F.R. §1.131

Commissioner of Patents
 Alexandria, VA 22313-1450

Sir,

I, Rajeev K. Pandey, hereby declare that:

1) The invention embodied in the above-identified patent application is directed to systems and methods for mobile network access.

2) I am advised that the United States Patent and Trademark Office has rejected one or more claims presently pending in the above-identified patent application based, at least in part, upon U.S. Patent Application Publication No. 2002/0079121 by *Gilman et al* ("the *Gilman* reference"). I am further advised that the effective priority date of the *Gilman* reference is October 19, 2001.

3) I have been advised that the invention, however, as embodied in the claims of the present invention was completed by me and my co-inventors Stephen A.

Docket No.: 10019035-1
(050855-1760)

Loughran and Charles M. Patton in this country prior to October 19, 2001.

Specifically, I have been advised that the invention was "completed" by virtue of reduction to practice prior to the earliest effective filing date of the *Gilman* reference.

4) As evidence that the present invention was so characterized by reduction to practice, my co-inventors and I submitted a completed Invention Disclosure form prior to October 19, 2001, a copy of which is attached hereto as "Exhibit A." The Invention Disclosure of Exhibit A fully supports the claims of the above-captioned patent application. Dates and sensitive information (e.g., home addresses, Employee #s, etc.) have been redacted in the document in accordance with applicable USPTO rules.

I hereby declare that all statements made herein are of my own knowledge are true and that all statements are made on information and belief and are believed to be true; and further, that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code, and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

1/10/2006

Date

Rajeev K. Pandey

Rajeev K. Pandey

332717



PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re the application of:	)	Confirmation: 4618
Stephen A. Loughran et al.)	
)	
Application Number: 10/029,161	)	Art Unit: 2152
)	
Filing Date: December 21, 2001	)	Examiner: Chankong, Dohm
)	
Title: System and Method for Mobile	)	Docket No.: 10019035-1
Network Access	)	(050855-1760)
)	
)	

**DECLARATION OF CHARLES M. PATTON
PURSUANT TO 37 C.F.R. §1.131**

Commissioner of Patents
Alexandria, VA 22313-1450

Sir,

I, Charles M. Patton, hereby declare that

1) The invention embodied in the above-identified patent application is directed to systems and methods for mobile network access.

2) I am advised that the United States Patent and Trademark Office has rejected one or more claims presently pending in the above-identified patent application based, at least in part, upon U.S. Patent Application Publication No. 2002/0079121 by *Gilman et al* ("the *Gilman* reference"). I am further advised that the effective priority date of the *Gilman* reference is October 19, 2001.

3) I have been advised that the invention, however, as embodied in the claims of the present invention was completed by me and my co-inventors Stephen

A. Loughran and Rajeev K. Pandey in this country prior to October 19, 2001.

Specifically, I have been advised that the invention was "completed" by virtue of reduction to practice prior to the earliest effective filing date of the *Gilman* reference.

4) As evidence that the present invention was so characterized by reduction to practice, my co-inventors and I submitted a completed Invention Disclosure form prior to October 19, 2001, a copy of which is attached hereto as "Exhibit A." The Invention Disclosure of Exhibit A fully supports the claims of the above-captioned patent application. Dates and sensitive information (e.g., home addresses, Employee #s, etc.) have been redacted in the document in accordance with applicable USPTO rules.

I hereby declare that all statements made herein are of my own knowledge are true and that all statements are made on information and belief and are believed to be true; and further, that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code, and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

__January 10, 2006__

Date



Charles M. Patton

HEWLETT-PACKARD COMPANY INVENTION DISCLOSURE

Page 1 of 1

Disclosure Number:	10019035	Patent Coordinator:	Diane Hammerstad
Date/Time Docketed:	[REDACTED]	Functional Mgr:	Brian Cripe
Attorney:	R.A. Jenski	Initiator(s):	Stephen Loughran
Entity/Division: (i.e. DMS/PMO)	IAS	Initiator Date:	[REDACTED]

For Legal Department Use Only

1. What is the Descriptive Title of your Invention?

Reverse Tunneling to the Internet through Modem Emulation

2a. Name of Project:

2b. Product Name or Number:

Shiva

3. Who are the Inventors?

Full Name (i.e. John S. Doe)	Greeted as (Nickname)	Employee #	Div. (i.e. DPS, PND)	Work Phone	Mail Stop #	Home Address/ Mailing Address (If different)	Citizen -ship
Stephen A. Loughran	Steve	[REDACTED]	DI	541.715. [REDACTED]	131 A	[REDACTED] Corvallis, OR	UK
Rajeev K. Pandey	Rajeev	[REDACTED]	EOps	541.715. [REDACTED]	524 A	[REDACTED] Corvallis, OR	USA
Charles M. Patton	Charles	[REDACTED]				[REDACTED] Eugene, OR	USA

4. What is the Legal History of your Invention?

Legal Question	Y/N	When?	Who/What/Where?
Invention Workable?	Y		
Invention Witnessed?	N		[REDACTED]
Invention Publicly Disclosed?	N		
Invention Disclosed under CDA?	N		

EXHIBIT A
PAGE 1 OF 4

HP CONFIDENTIAL

HEWLETT-PACKARD COMPANY INVENTION DISCLOSURE

Page 2 of 2

Invention in a Present/Future Product/Project?	N		
Invention Under Government Contract?	N		

5. What is the Licensing Value of your Invention?

<i>Licensing Value Question</i>	<i>Answer</i>
In 25 words or less, what problem does your invention solve?	Connectivity for roaming mobile devices back to the Internet or an Internet Service Provider ISP
Has this problem been solved before? If so, how?	Yes, through explicit dial-up or with local area wireless, not for roaming devices connecting to the network via PCs and other networked devices
In 25 words or less, how did you solve the problem?	The program emulates a modem, such that the roaming device believes it can dial up to the Internet (via its ISP) using the modem. But instead of dialing up to the ISP, and then accessing the network using a protocol such as PPP, the program instead looks up a remote database to determine which network server to talk directly to, then it sets up a link between the roaming device and a network server running PPP (perhaps over an HTTP tunnel).
Why is your solution better than other solutions?	This mechanism gives today's mobile devices fast and free access to the Internet, even from behind someone else's firewall. If widely deployed, one could connect one's handheld to the Internet by plugging into any serial port, standing in front of any IR port or just standing near any Bluetooth PC
Why would our competitors want to use (and pay us for) your solution?	It is a simple way to add roaming network access to today's mobile devices
How could you detect that someone else was using your invention?	If they shipped a palmtop or similar device which could connect to any PC for network access If that network access was granted via modem emulation
What is the best "prior art" you know of?	<ul style="list-style-type: none"> • PPP tunneling, PPP over Ethernet: these lay the foundations for the communication between handheld and network server. • Existing palmtop and handheld connectivity software: Most of such software just connects the user to their PC. Sometimes it has been possible to access the local network over the serial cable (Windows CE synchronization on Windows NT4), but this exposed a security risk as any untrusted devices could walk up and access the LAN. The approach of 'tunneling' back out the network avoids this. • Httpptunnel: this is an open source software project, which enables arbitrary protocols (such as PPP) to tunnel through a firewall using HTTP.

EXHIBIT A
PAGE 2 OF 4

HP CONFIDENTIAL

HEWLETT-PACKARD COMPANY INVENTION DISCLOSURE

Page 3 of 3

6. Enter the detailed description of the problem and your solution below. Include any other information (drawings, graphs, flowcharts, code, notebooks, etc) that will help make your invention more understandable.

Problem:

It is expensive for handheld devices to access the Internet via wireless connection.

Solution:

Imagine a program that runs on a PC (or any other programmable device) which has network access (Ethernet, wireless LAN, whatever) and another port to which roaming handheld and laptop computers can connect (e.g. Serial port, Infra Red port or Bluetooth). The program emulates a modem, such that the roaming device believes it can dial up to the Internet (via its ISP) using the modem. But instead of dialing up to the ISP, and then access the network using a protocol such as PPP, the program instead looks up a remote database to determine which network server to talk directly to, then sets up a link between the roaming device and a network server running PPP (perhaps over an HTTP tunnel).

This mechanism gives today's mobile devices fast and free access to the Internet, even from behind someone else's firewall. If widely deployed, one could connect one's handheld to the Internet by plugging into any serial port, standing in front of any IR port or just standing near any Bluetooth PC. The system would be secure in that by routing all communications to a server beyond the firewall, it is impossible for even untrusted devices to access the local (secured) network. This would permit widespread deployment and enable people to let anyone use their computer as an access gateway. If the users used Internet hosted synchronization services (such as Yahoo!'s calendar and address book) then the roaming devices would be able to connect and synchronize with these services.

The modem emulation aspect permits even today's shipping products to use this network access mechanism, without any extra software being installed on the devices. This and the trick of looking up the telephone number on a web server to determine the real network server to talk to will enable anyone to use anyone else's serial, IR and Bluetooth ports to get to the network.

The design also makes it easy to turn any network connected device into an access point –until now people have had to use their own PC, as that is what they connected to. Now printers can be turned into base stations, while Bluetooth LAN access points could be enhanced with this emulated modem to permit untrusted devices to have, at least, Internet access, while the LAN was still denied.

Problems Solved:

- How to give handheld/roaming devices network access from the owner's PC.
- How to avoid adding more security holes to a corporate network in the process.
- How roaming devices can make use of other people's network connectivity capabilities.

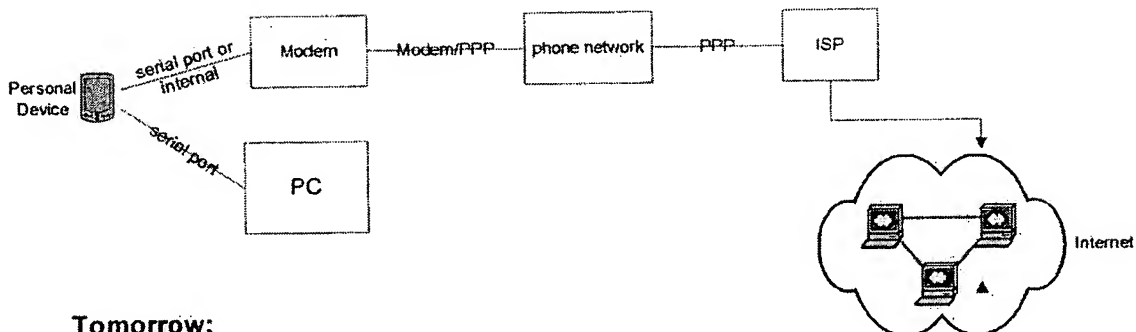
Figure 1 below shows that a portable device would connect through a computer to an outside server that would subsequently direct the user to its ISP.

EXHIBIT A
PAGE 3 OF 4

HEWLETT-PACKARD COMPANY INVENTION DISCLOSURE

Page 4 of 4

Today:



Tomorrow:

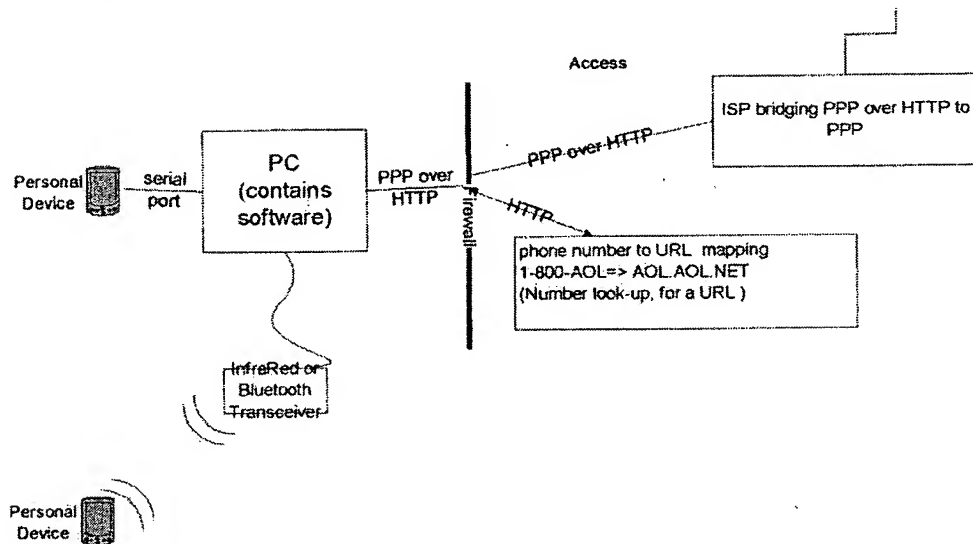


Figure 1

7. Please provide copies of your signed and dated lab notebook pages.

EXHIBIT A
PAGE 4 OF 4

HP CONFIDENTIAL